

**REMARKS**

The applicants thank the examiner for having returned initialed copies of the PTO 1449 that were submitted on 12 April 2005, 5 January 2006, 21 November 2006, and on 17 January 2007.

Claims 1 - 39 are pending. The applicants respectfully request reconsideration and allowance of this application in view of the above amendments and the following remarks.

Claim 14 was objected to due to informalities. Particularly, the examiner has kindly noted that claim 14 should depend from claim 12. The applicants have accordingly amended claim 14 to depend from claim 12 as noted by the examiner.

Claims 1 - 2, 4 - 14, 15 - 17, 22 - 23, 30 - 35 and 39 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,404,775 to Leslie *et al.* (hereafter: "Leslie"). The applicants respectfully request that this rejection be withdrawn for the following reasons.

Claim 1 has been amended to recite the novel embodiment of a frequency translating repeater 200 for use in a time division duplexing (TDD) radio protocol system. As discussed on, for example, pgs. 9 - 10, the repeater 200 receives and re-transmits packets with more power on a second frequency channel 202 so that a client unit 105 can receive the signal, which would possibly be attenuated when passing through a structural barrier such as walls to a point where few, if any, data packets are received in either direction if not for the wireless repeater 200.

Accordingly, the frequency translating repeater includes: *inter alia* a frequency translator configured to change a frequency channel associated with the signal from the one of the two frequency channels to an other of the two frequency channels; and a delay circuit configured to add a delay to the signal to compensate for a signal detection interval, gain adjustment interval and a transmitter configuration interval. That is, as discussed on, for example, pg. 15, the delay

introduced acts to essentially store the analog waveform while AGC and signal detection processes, for example as described above, are carried out, meaning that detection and gain control setting are preferably completed during the propagation interval of the signal.

On the other hand, without conceding that Leslie discloses any feature of the present invention, Leslie is directed to a repeater for enabling terminals of a first communication system such as a 1.9 GHz TDMA PCS system employing a first radio interface to communicate with terminals of a second communication system such as a 800 MHz TDMA cellular system employing a second, incompatible, radio interface. According to Leslie, in order to ensure transmission or reception on a particular time slot is active, a time slot demodulator 182 demodulates the signal received from the 800 MHz base station 114 and extracts time slot information, including time slot synchronization and information as to which time slots are active. The time slot demodulator 182 adds a timing offset to match the timing of signals expected from the mobile. The time slot demodulator 182 produces a reverse-path time slot synchronization signal 184 signal on signal path 184 which is supplied to reverse path gate means 348 in the IF chain to gate or enable the propagation of the received signal through the IF chain only during reverse-channel time slots expected to be active.

The office action asserts that Leslie anticipates the invention as claimed. To the contrary, Leslie fails to disclose the recited limitations. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Particularly, Leslie fails to disclose a delay circuit configured to add a delay to the signal to compensate for a signal detection interval, a gain adjustment interval and a transmitter configuration interval. Rather, Leslie discloses a time slot demodulator 182 that merely adds a timing offset to match the timing of signals expected from the mobile. The time slot demodulator 182 produces a reverse-path time slot synchronization signal 184 signal on signal path 184. Leslie does not disclose that the time slot demodulator 182 that adds the timing offset compensates for signal detection interval and a transmitter configuration interval, as well as a gain adjustment interval. Accordingly, the rejection of claim 1 under 35 U.S.C. 102(e) should be withdrawn.

Claims 2 and 4 - 14 depend from claim 1. Therefore, the rejection of these claims should be withdrawn for at least the above-mentioned reasons with respect to claim 1.

Further regarding claim 10, claim 10 has been amended to recite the novel embodiment disclosed, for example, on pgs. 12 - 14 in which the frequency translating repeater according to further includes: *inter alia* an antenna for receiving the signal on the first or second frequency channel; an RF splitter 316 coupled to the antenna, the RF splitter for splitting the first signal onto a first path and a second path; first and second IF splitters 317, 318 disposed on the first and second paths, respectively, the first IF splitter 317 for splitting the first signal into a first IF signal on a first IF signal path 331 and a second IF signal on a second IF signal path 333, the second IF splitter 318 for splitting the second signal into a third IF signal on a third IF signal path 332 and a fourth IF signal on a fourth IF signal path 334, wherein the detector circuit and the gain control circuit are located on the first IF signal path and the third IF signal path, wherein the delay circuit 307 -310 is located on the second IF signal path and the fourth IF signal path.

Accordingly, the repeater 200 can be configured to simultaneously detect and process two different frequency signals, and separately delay and control the two different frequency paths.

Although Leslie discloses a detector circuit (RSSI detector 342), gain control circuit (gain control signal 344) and a delay circuit (time slot demodulator 182), Leslie fails to disclose that the detector circuit and the gain control circuit are located on the first IF signal path and the third IF signal path, and that the delay circuit is located on the second IF signal path and the fourth IF signal path. Rather, Leslie discloses that the RSSI detector and the gain control signal 344 are provided within an IF filter and gain control block 166, while the delay circuit is located on signal path 180 which is the output from block 166 (See. Figs. 3 and 5; and see also col. 11 lines 8 - 20). Accordingly, because the delay circuit is not located on paths different from the gain control circuit and detector circuit, the repeater of Leslie cannot add the timing offset to compensate for signal detection interval and a transmitter configuration interval.

Therefore, because Leslie fails to disclose that the detector circuit and the gain control circuit are located on the first IF signal path and the third IF signal path, and that the delay circuit is located on the second IF signal path and the fourth IF signal path, it is respectfully requested that the rejection of claim 10, as amended, be withdrawn.

Claims 15 and 39 also recite *inter alia* a frequency translating repeater comprising: a delay circuit configured to add a delay to the IF signal to compensate for a signal detection interval and a transmitter configuration interval; and a gain control circuit configured to adjust a gain value of the IF signal. As discussed essentially above, Leslie fails to disclose a delay circuit configured to add a delay to the IF signal to compensate for a signal detection interval and a transmitter configuration interval. Rather, Leslie discloses a time slot demodulator 182 that

merely adds a timing offset to match the timing of signals expected from the mobile.

Accordingly, the rejection of claim 15 under 35 U.S.C. 102(e) should be withdrawn.

Claims 16 - 17 depend from claim 15 Therefore, the rejection of these claims should be withdrawn for at least the above-mentioned reasons with respect to claim 15.

Further regarding claims 17, claim 17 has been amended to include the novel limitations discussed above with respect to claim 10. Therefore, the rejection of claim 17 should be withdrawn for the above-mentioned reasons with respect to claim 10.

Claims 22 and 30 recite a novel method for frequency translation in a frequency translating repeater for use in a time division duplexing (TDD) radio protocol system, the method including *inter alia* adding a delay to the signal to equivalent to a signal detection interval and a transmitter configuration interval. As discussed essentially above, Leslie fails to disclose adding a delay to the IF signal to compensate for a signal detection interval and a transmitter configuration interval. Rather, Leslie discloses a time slot demodulator 182 that merely adds a timing offset to match the timing of signals expected from the mobile.

Accordingly, the rejection of claims 22 and 30 under 35 U.S.C. 102(e) should be withdrawn.

Claims 23 depends from claim 22, and claims 31 - 35 depend from claim 30. Therefore, the rejection of these claims should be withdrawn for at least the above-mentioned reasons with respect to claim 22 and 30.

Claims 3, 18 - 21, 24 - 25, 26 - 29, 33 and 36 - 38 were rejected under 35 USC 103(a) as being unpatentable over Leslie in view of U.S. Patent No. 6,285,863 to Zhang. The applicants respectfully request that this rejection be withdrawn for the following reasons.

As admitted by the examiner, Leslie fails to teach a delay circuit including at least one surface acoustic wave filter configured for one or more of: analog signal storage and channel selection. The examiner has cited Zhang in order to cure the deficient teachings of Leslie.

Zhang discloses a receiver that includes a SAW filter 104 for filtering an IF signal to select a desired channel within the IF signal. The examiner has asserted that it would have been obvious to one of ordinary skill in the art to have combined the repeater of Leslie with the SAW filter of Zhang because SAW filters allow for a signal to be delayed and select a desired frequency. As discussed below, the applicants respectfully disagree with this assertion.

Absent hindsight, one skilled in the art would not have been motivated to use the SAW filter of Zhang in Leslie, as the time slot demodulator 182 of Leslie would become inoperable if a SAW filter was used. If a proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (See In re Gordon, 733 F.3d 900 (Fed. Cir. 1984); Cited in MPEP 2143.01, 8<sup>th</sup> Ed., Rev. 1, Feb. 2003). In detail, Leslie discloses that demodulator 182 produces a time slot synchronization signal 184 which is applied to a gate 184 to enable propagation of the received signal only during particular channel time slots. (See Col. 14, Lines 5 - 15). Although a SAW filter can delay a signal, Zhang does not disclose controlling the SAW filter in accordance with a synchronization signal 184 to dynamically control the delay. Rather, Zhang merely discloses that the SAW filter selects a desired channel within the IF signal. Therefore, one skilled in the art would not have had a reason to have combined the repeater of Leslie with the SAW filter of Zhang because SAW filters allow for a signal to be delayed and select a desired frequency. Accordingly, the rejection of claims 3, 18 - 21, 24 - 25, 26 - 29, 33 and 36 - 38 under 35 U.S.C. 103(a) should be withdrawn.

Further, Zhang also fails to teach or suggest adding a delay to the signal to compensate for a signal detection interval and a transmitter configuration interval. Therefore, the rejection of claims 3, 18 - 21, 24 - 25, 26 - 29, 33 and 36 - 38 under 35 U.S.C. 103(a) should also be withdrawn for the above-mentioned reasons with respect to claim 1.

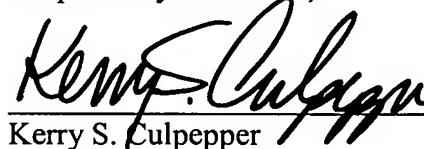
Further regarding claim 26, claim 26 has been amended to include the novel limitations discussed above with respect to claim 10. Therefore, the rejection of claim 26 should be withdrawn for the above-mentioned reasons with respect to claim 10.

New claims 40 - 41 are presented for examination. These claims recite features that further distinguish the present invention from the art of record. Support for new claims 40 - 41 can be found on, for example, pgs. 12 - 14.

In view of the foregoing, the applicants submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

If there are any problems with the payment of fees, please charge any underpayments and credit any overpayments to Deposit Account No. 50-1147.

Respectfully submitted,



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